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10/826,062	04/16/2004	Cecilia Castillo	2002-0427	9972

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NEWAY, SAMUEL G	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/826,062	CASTILLO ET AL.	
	Examiner	Art Unit	
	SAMUEL G. NEWAY	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 21-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 21-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is responsive to the amendment after non-final filed on 22 December 2009.

2. Claims 1-12 and 21-32 are pending and considered below.

Response to Amendment

3. Applicant has amended claims 1 and 12 in order to overcome the 35 USC 101 rejections of claims 1-4 and 7-12. Claim 1 is independent and claims 2-4 and 7-12 depend upon it. The amendments trying to tie claim 1 to a statutory category are made in the preamble and are not given sufficient patentable weight to overcome the rejection. However, the amendment to claim 12 (in the body of the claim) ties the claim to a statutory category and the 35 USC 101 rejection of claim 12 is withdrawn. The 35 USC 101 rejections of claims 1-4 and 7-11 still stand.

Response to Arguments

4. Applicant's arguments with respect to claims 1-12 and 21-32 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-4 and 7-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-4 and 7-11 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent (*Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)) and recent Federal Circuit decisions (*In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008)) indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor positively ties to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

For example in claim 1, as disclosed in Applicant's specification, a human user can inspect a call flow and convert it to a higher level representation (Applicant's specification, [0004] and [0033]). By the same token, a human user can augment the higher level representation and convert it into a state-based representation.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-12 and 21-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 21 have been amended to add the limitation "wherein a name of at least one state transition in the higher level representation includes a suffix associated with a special meaning". However, it is the augmented higher level representation (augmented Backus-Naur Form) and not the higher level representation which is disclosed as including such a name (see Applicant's specification [0022]). Note that claim 3 further defines the higher level representation as a Backus-Naur Form.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-3, 5, 7, 8, 11, 12, 21-23, 25, 27, 28, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Devine et al (US PGPub 2003/0217190), in view of Mital et al (USPN 7,184,967), in view of Karr et al (US PGPub 2003/0066051), and in further view of Sinai et al (USPN 7,143,042).

Claim 1:

Devine discloses a method of converting a call flow into a state-based representation (Abstract), the method causing a computing device to perform steps comprising:

walking a call flow and converting each page of the call flow into a rule of a higher level representation of the call flow ("The drawing package allows for the created flow charts to be saved in an intermediate language format", [0007]);

augmenting the higher level representation with terminal symbols representing state variable assignments and comparisons associated with decision and computation shapes in the call flow ("an intermediate language format that captures the physical description of the graphical representation of the process as well as information representative of the content in that flowchart", [0007], the intermediate language may be XML, [0026]); and

converting the higher level representation into a state-based representation ("A parser processes these intermediate language documents to create a state event table that can direct the operation of a state machine engine", [0007]).

Devine does not explicitly disclose wherein a name of at least one state transition in the higher level representation (XML) includes a suffix associated with a special meaning.

In a similar method, Mital discloses converting a workflow into a higher level representation wherein the higher level representation (XML) includes a name of at least one state transition in the higher level representation includes a suffix associated with a special meaning (Figs. 22 and 23, note that the state WTG-1 in Fig. 22 is named (WTG_1, source(p_1, m_1)) in Fig. 23. Also note that source(p_1, m_1) is a suffix associated with a special meaning).

It would have been obvious to one with ordinary skill in the art at the time of the invention to represent Devine's higher level representation (XML) with a name of at least one state transition in the higher level representation including a suffix associated with a special meaning since this is a well-known standard of representing names in XML as evidenced by Mital.

Devine and Mital do not explicitly disclose that the variables are dynamically typed.

Karr discloses dynamic variables used in dynamically typed languages such as Matlab ([0017] and [0018]).

It would have been obvious to one with ordinary skill in the art to have used a dynamically typed language such as Matlab to convert Devine's call flow into source code to yield the predictable result of dynamically typed variables. Note also that Devine discloses any "suitable language" (which could be Matlab) may be used to represent the source code ([0045]).

Devine, Mital, and Karr do not explicitly disclose that the flow chart is for a spoken dialog service.

Sinai discloses a similar call flow design tool where the generated flow is from a spoken dialog service ("The function of the dialog runtime unit 42 is to enable the developer to execute a dialog being assembled using the dialog flow editor 41", col. 8, lines 40-43).

It would have been obvious to one with ordinary skill in the art at the time of the invention to use Devine's flow charts for Sinai's spoken dialog service, or any other

process that can represented by a flow chart, because, as Devine states, "the systems and methods described herein may be employed in many applications besides telephony services, including gaming, video-conferencing, billing, and other applications" ([0067]).

Claim 2:

Devine, Mital, Karr, and Sinai disclose the method of claim 1, Mital further discloses wherein the higher level representation is a context-free grammar representation ("Backus-Naur Form", col. 17, lines 15-17, Fig. 24 and related text).

It would have been obvious to one with ordinary skill in the art at the time of the invention to define the higher level representation in Devine's method in a context-free grammar as disclosed in Mital because context-free grammar is a widely used format for specifying the syntax of a language.

Claim 3:

Devine, Mital, Karr, and Sinai disclose the method of claim 2, Mital further discloses wherein the context free grammar notation is a Backus-Naur Form (BNF) (col. 17, lines 15-17, Fig. 24 and related text).

It would have been obvious to one with ordinary skill in the art at the time of the invention to define the higher level representation in Devine's method in a Backus-Naur Form as disclosed in Mital because Backus-Naur Form is a widely used format for specifying the syntax of a language.

Claim 5:

Devine, Mital, Karr, and Sinai disclose the method of claim 3, Devine further discloses wherein the step of walking the call flow and converting each page to a BNF occurs automatically via a computing device ("the editor is the Microsoft Visio editor which allows for a created flowchart to be saved an XML format", [0007]).

Claim 7:

Devine, Mital, Karr, and Sinai disclose the method of claim 1, Devine further discloses wherein the call flow comprises at least one page having a set of shapes having specific meanings (Fig. 4 and related text).

Claim 8:

Devine, Mital, Karr, and Sinai disclose the method of claim 7, Devine further discloses wherein the set of shapes having special meaning comprises at least: parallelograms representing rules, lines representing dialog inputs, rectangular boxes representing dialog outputs or actions, diamonds representing Boolean decision functions, hexagrams representing calculation and assignment functions and annotation shapes representation comments (Fig. 4 and related text).

Claim 11:

Devine, Mital, Karr, and Sinai disclose the method of claim 1, Devine further discloses wherein the rule comprises terminal symbols comprising the names used to label shapes and transitions of the call flow ("The translator can process these shapes and connectors to develop a set of instructions, such as a set of XML instructions", [0027]).

Claim 12:

Devine, Mital, Karr, and Sinai disclose the method of claim 1, Devine further discloses generating a unique terminal symbol in the higher level representation that shadows each rule, input, output, decision and calculation within the call flow ("The translator can process these shapes and connectors to develop a set of instructions, such as a set of XML instructions, that represent the service presented in the drawing.", [0027]).

Claims 21-23, 25, 27, 28, 31, and 32:

Systems claims 21-23, 25, 27, 28, 31, and 32 and method claims 1, 2, 3, 5, 7, 8, 11, and 12 are related as system and the method of using same, with each claimed element's function corresponding to the claimed method step. Accordingly claims 21-23, 25, 27, 28, 31, and 32 are rejected with the same rationale as applied above with respect to method claims 1, 2, 3, 5, 7, 8, 11, and 12.

11. Claims 4, 6, 9, 10, 24, 26, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Devine et al (US PGPub 2003/0217190), in view of Mital et al (USPN 7,184,967), in view of Karr et al (US PGPub 2003/0066051), in view of Sinai et al (USPN 7,143,042), and in further view of Wallace (USPN 4,686,623).

Claim 4:

Devine, Mital, Karr, and Sinai disclose the method of claim 3, but they do not explicitly disclose wherein the state-based representation is a finite state machine (FSM).

It is old and well known in the computing arts to input context-free grammar into a grammar parser and generate a finite state machine as evidenced by Wallace which discloses expressing source code in a context-free grammar which is provided to a grammar parser which in turn generates a finite state machine (col. 2, lines 38-44).

Thus, it would have been obvious to one with ordinary skill in the art at the time of the invention to have the state based representation of Devine's method be finite state machines because they are known and old standards in compiling source code.

Claim 6:

Devine, Karr, Sinai, Mital and Wallace disclose the method of claim 4, Devine further discloses wherein the step of augmenting the BNF with terminal symbols occurs automatically via a computing device ("the editor is the Microsoft Visio editor which allows for a created flowchart to be saved an XML format", [0007]).

Claim 9:

Devine, Mital, Karr, Sinai and Wallace disclose the method of claim 4, Wallace further discloses wherein a grammar compiler is used to convert the BNF into the FSM (col. 2, lines 38-44).

It would have been obvious to one with ordinary skill in the art at the time of the invention to use a grammar compiler to convert BNF into FSM because it is an old and known standard in compiling source code.

Claim 10:

Devine, Mital, Karr, Sinai and Wallace disclose the method of claim 9, Sinai further discloses wherein the FSM may be used by at least one spoken dialog tool to

perform generation and testing functions associated with a spoken dialog service ("The function of the dialog runtime unit 42 is to enable the developer to execute a dialog being assembled using the dialog flow editor 41, such as for testing and debugging purposes", col. 8, lines 40-43).

Claims 24, 26, 29, and 30:

Systems claims 24, 26, 29, and 30 and method claims 4, 6, 9, and 10 are related as system and the method of using same, with each claimed element's function corresponding to the claimed method step. Accordingly claims 24, 26, 29, and 30 are rejected with the same rationale as applied above with respect to method claims 4, 6, 9, and 10.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAMUEL G. NEWAY whose telephone number is (571)270-1058. The examiner can normally be reached on Monday - Friday 8:30AM - 5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R Hudspeth/
Supervisory Patent Examiner, Art Unit 2626

/S. G. N./
Examiner, Art Unit 2626